RESOURCES

EPA Budget (FY01, ORD only) FTEs: 89 EPA \$22.2 million

Statutory

CAA Title I. Part A & Part D. Subparts 3& 5 (42 USC 7401-7431, 7512-7512a. 7514-7514a) (15 USC 2605); CAA Title II, Section 202 (1)(2); CAA Title IV (42 USC 7641-7642) (Not 1990 CAA)

Partnerships/Information

Committee on Environmental and Natural Resources Research (CENR)

HHS DOD DOE

Health Effects Institute

Chemical Industry Institute of Technology

NOAA NAS

Mickey Leland National Urban Air Toxics Research Center

Lovelace Respiratory Research Institute

National Jewish Medical and Research Center

Stakeholder Input Science Advisory Board

ACTIVITIES

Multiple Scale Assessments

Provide scientific methods and information to support national, regional, and local scale assessments:

- human health effects and risks from exposure
- exposure-dose-response
- research on pollutants' effects

Multiple Scale and Stationary Sources

Develop tools, methods, measurements, approaches for:

- human exposure models
- exposure-dose-response models
- conducting air quality modeling
- measuring organics
- dosimetry and uncertainty analysis
- structural and biological factors for selected HAPs
- extrapolating ecosystem and human health effects
- characterizing and predicting toxicity
- conducting cost and economic analyses of controls
- developing pollution prevention (P2) and controls for **HAPs**

Mobile sources

Develop tools, methods, measurements, approaches for:

- human exposure models
- air quality modeling
- exposure-dose-response models and assessments
- extrapolating ecosystem and human health effects
- emissions data and models
- atmospheric models
- develop pollution prevention (P2) and controls for **HAPs**

Indoor Air

Develop:

- model for particulates and gaseous air toxics
- short-term exposure health outcome data
- human exposure measurements
- risk management tools

Characterize indoor HAPs

OUTPUTS

Multiple Scale and Stationary Sources

Assessments:

- health effects
- exposure-dose-response
- risks from exposure

Models:

- Air Quality
- Source Receptor
- Dose-Response
- Human Exposure

Characterization of cancer and non-cancer effects

Air pollution control techniques, P2 options, and related costs

Method to measure organics

Data from IRIS

Mobile Sources and Indoor Air

Assessments:

- health effects
- exposure-dose-response Models:
- Dose-response
- Human exposure
- Mobile sources (mobile only)

Characterization of cancer and non-cancer effects

Air pollution control techniques and P2 options (mobile only)

Cost and performance of risk management tools (indoor only)

CUSTOMERS

OAR

Regions

State/Local/Tribal Agencies

Industry

Public

ORD

Congress

Environmental Groups

SHORT-TERM OUTCOMES (Knowledge, Attitudes, Skills, and Aspirations)

Customers become aware of. understand, and desire to use the new information. models, and techniques resulting from the research.

Customers gain knowledge about the health effects and dose-response relationships of high priority air toxics pollutants.

Customers learn how to use tools to conduct multiscale, multi-media assessments: assessments of indoor air: assessments of stationary sources and mobile sources.

Research results are published: and tools and technology are transferred to OAR for use in characterizing air toxics. conducting risk assessments, and reducing risk.

States/Locals/Tribes understand EPA strategies to reduce risk for certain stationary source catergories, mobile sources, and indoor air sources.

Outputs also feedback into subobjectives 1.2.2 and 1.2.3

SHORT-TERM OUTCOMES (Actions)

OAR uses information to characterize air toxics and conduct risk assessments.

In conjunction with EPA, States/Locals/Tribes begin implementing risk reduction strategies for certain stationary source categories, mobile sources, and indoor air sources.

Stakeholders participate in public hearings on EPA's air toxics research.

OTHER EPA AND NON-EPA PROGRAMS THAT CONTRIBUTE TO AIR TOXICS RESEARCH

EPA GOAL 1 PROGRAMS

Subobjective 1.1.8 - Conduct NAAQS-Related Research

EPA NON-GOAL 1 PROGRAMS

Goal 8 - Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems

FEDERAL AGENCY PROGRAMS

Numerous federal agencies perform air toxic-related research which is coordinated by EPA through the Committee on Environmental and Natural Resources Air Quality Research Subcommittee.

The research outputs become inputs for subobjectives 1.2.2 and 1.2.3.

These research outputs should be used by the air toxics program to conduct numerous program activities. These activities are represented as "Short-Term Outcome Actions" in this model and as activities in the subobjective 1.2.2 and 1.2.3 models.



EXTERNALITIES:

(Factors beyond the control of the program that hinder or contribute to achievement of the program's goals.)



Economic conditions

Congressional and state budgetary appropriations

Weather



Lawsuits and court decisions

Public preferences/trends

Politics



Energy supply conditions



FOOTNOTE:

This model represents the intended design of the program based on EPA planning and budget documents, EPA web-based information, applicable statutes and regulations, interviews with EPA officials, and comments from EPA officials on the preliminary versions of the model. We did not discuss the model or its contents with EPA external stakeholders such as Congressional members, industry groups, environmental groups, or state agencies. Further, we did not perform work to test whether the program is being implemented as depicted in this model.